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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,959	12/29/2000	Ludwig Hofmann	GR 98 P 1974 P	8500
24131	7590	05/04/2004	EXAMINER	
LERNER AND GREENBERG, PA P O BOX 2480 HOLLYWOOD, FL 33022-2480			IQBAL, KHAWAR	
			ART UNIT	PAPER NUMBER
			2686	11

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/751,959

Applicant(s)

HOFMANN, LUDWIG

Examiner

Khawar Iqbal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,4,7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papadakis et al (5461921) and further in view of Muzilla et al (5938611).

1. Regarding claims 1 and 4 Papadakis et al teaches a method for transmitting data between a head part and a base part of a hands-free telephone, which comprises (fig. 6):

digitizing information to be transmitted (figs. 1,6, element 26) (col. 9, lines 24-27);

spreading the digitized information over a wider frequency band using a CDMA technique (col.9, lines 24-27);

performing a digital to analog (304) conversion on the spread digitized information (col. 9, lines 27-30);

converting the digital to analog converted (304) spread information into an ultrasound signal (col. 9, lines 31-35); and

transmitting the ultrasound signal via an air interface (fig.6, element 26) (col. 9, lines 31-35). Papadakis et al teaches a continuous wave of wideband direct-sequence spread-spectrum signals continuously drives one or more transducers (26), transmitting coded ultrasonic signals into the object under test (25). The interrogating

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signal comprises a carrier, phase-modulated with a pseudo-random code of length sufficient to produce continuous spectral components. One or more receiving transducers (30) of the signals (1,2,3,4), diffracted and deflected within the test object, provide electrical output signals. These are cross-correlated, e.g. software-driven, with a time-delayed replica of the transmitted signal, producing a unique signature signal for display and analysis to determine the test object properties, including flaws. Papadakis et al does not specifically teach compressing information to be transmitted using compressing coding.

In an analogous art, Muzilla et al teaches compressing information to be transmitted using compressing coding (col. 3, lines 5-40). Muzilla et al teaches Improves the SNR and/or resolution in color flow ultrasound imaging by using coded excitation with single code. Allows a long transmit pulse to be compressed on receive such that most energy is concentrated in a short interval. Improves spatial resolution sensitivity without compromising sensitivity. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Papadakis et al by specifically adding feature compressing coding in order to enhance system performance of the system purpose of increasing coding efficiency as taught by Muzilla et al.

Regarding claim 7 Papadakis et al teaches a hands-free telephone comprising an ultrasonic transmission system including (figs. 1,6):

a CDMA spreader for spreading digital information to a number of carrier frequencies using a CDMA technique (col. 9, 24-45);

a digital to analog converter for digital to analog converting the spread information (col. 9, 24-35); and

an ultrasonic transducer for converting the digital to analog converted spread information into an ultrasound signal and for transmitting the ultrasound signal over an air interface (col. 9, 24-35). Papadakis et al teaches a continuous wave of wideband direct-sequence spread-spectrum signals continuously drives one or more transducers (26), transmitting coded ultrasonic signals into the object under test (25). The interrogating signal comprises a carrier, phase-modulated with a pseudo-random code of length sufficient to produce continuous spectral components. One or more receiving transducers (30) of the signals (1,2,3,4), diffracted and deflected within the test object, provide electrical output signals. These are cross-correlated, e.g. software-driven, with a time-delayed replica of the transmitted signal, producing a unique signature signal for display and analysis to determine the test object properties, including flaws. Papadakis et al does not specifically teach compressing information to be transmitted using compressing coding.

In an analogous art, Muzilla et al teaches compressing information to be transmitted using compressing coding (col. 3, lines 5-40). Improves the SNR and/or resolution in color flow ultrasound imaging by using coded excitation with single code. Allows a long transmit pulse to be compressed on receive such that most energy is concentrated in a short interval. Improves spatial resolution sensitivity without compromising sensitivity. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Papadakis et al by

specifically adding feature compressing coding in order to enhance system performance of the system purpose of increasing coding efficiency as taught by Muzilla et al.

Regarding claim 10 Papadakis et al teaches at a receiver component (fig. 1,6), receiving (30) the transmitted ultrasound signal and converting the received ultrasonic signal into an analog electrical signal (306); performing an analog to digital conversion on the analog electrical signal (42); despreding the analog to digital converted signal using a CDMA technique (col. 9, lines 35-55).

4. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papadakis et al (5461921) and further in view of Muzilla et al (5938611) Waters et al (5155741).

Regarding claims 3 and 9 Papadakis et al and Muzilla et al do not specifically teach reducing an effective bit rate of the information to be transmitted to about 1-10 kbit/s when performing the compression coding. The decoder preferably further comprises a converter for converting the analog voice message to digitized voice words, and a memory for storing the digitized voice words. A controller is also preferably provided for controlling the circular shift register in response to the stored digitized voice words.

In an analogous art, Waters et al teaches which comprises reducing an effective bit rate of the information to be transmitted to about 1-10 kbit/s when performing the compression coding. (figs. 2, col. 9, lines 24-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Papadakis et al and Muzilla et al by specifically adding a 1-10 kbit/s when performing

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the compression coding for the purpose of increasing the efficiency of the coding system taught by Waters et al.

5. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Papadakis et al (5461921) and further in view of Muzilla et al (5938611) and Scott (6522642).

Regarding claim 6 Papadakis et al and Muzilla et al do not specifically teach information is spread to  $\pm 100\text{kHz}$ .

In an analogous art, Scott teaches information is spread to  $\pm 100\text{kHz}$  (col. 2, lines 30-37). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Papadakis et al and Muzilla et al by specifically adding a information is spread to  $\pm 100\text{kHz}$  for the purpose of increasing the efficiency of the system taught by Scott.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papadakis et al (5461921) and further in view of Muzilla et al (5938611) and Nakamura (4591811).

Regarding claim 5 Papadakis et al and Muzilla et al do not specifically teach wherein in performing the step of transmitting the ultrasound signal, the ultrasound signal is transmitted at a frequency between 200 and 400 kHz.

In an analogous art, Nakamura teaches the ultrasound signal is transmitted at a frequency between 200 and 400 kHz (col. 1, lines 19-28). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Papadakis et al and Muzilla et al by specifically adding a the ultrasound

signal is transmitted at a frequency between 200 and 400 kHz for the purpose of increasing the efficiency of the system taught by Nakamura.

### ***Response to Arguments***

7. Applicant's arguments filed 3-9-04 have been fully considered but they are not persuasive. The examiner has thoroughly reviewed applications argument but firmly believes the cited references to reasonably and properly meets the claim limitation. In regard to applicant's was that Papadakis et al does not teach hands-free telephone and transmitting the ultrasound signal via an air interface. In response, examiner would like to point out that Papadakis et al teach the transmitting transducer 26 converts the wide-band DSSS signal into ultrasonic energy and transmits the coded ultrasound into the test object 28 either directly or through a coupling medium (see fig.6, doted lines between transmitter 26 and receiver 30)(col. 5, lines 35-39). The transmitting transducer 26 is shaped so that the ultrasonic waves are incident on the test object 28 at a plurality of angles (fig. 2). Referring to FIG. 2, there is shown a pictorial representation of typical traveling paths that the coded ultrasound takes as a result of the diffraction and reflection of the ultrasound. As shown in FIG.2, the coded ultrasound transmits, reflects, and reverberates through the test object 28 and is then collected by the receiving transducer 30. In response to applicant's arguments, the recitation hands-free telephone has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body



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of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In response to applicant's argument nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

### Conclusion

**8. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAWAR IQBAL whose telephone number is 703-306-3015.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **BANKS-HAROLD, MARSHA**, can be reached at 703-305-4379.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2684 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

**Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.**

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